

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A system for remote control of an electrically operated railroad wayside equipment having a power supply for powering the wayside equipment, said power supply providing power to the way side equipment via two power lines, and said system comprising:

 a central controller providing central control signals;

 a transmitter associated with the controller for receiving the control signals and converting the control signals into transmitting communications signals for transmission via the two power lines ~~corresponding to the control signals~~; and

 at least one remote equipment controller controlling operation of the wayside equipment, said equipment controller having a receiver connected to at least one of the two power lines for receiving at least one of the communications signals and for generating corresponding remote control signals for controlling the wayside equipment.

Claim 2 (original): The system of claim 1 wherein the receiver is only responsive to communication signals which are authenticated as originating from the transmitter.

Claim 3 (original): The system of claim 1 wherein the communication signals are encrypted by the transmitter and the receiver is only responsive to encrypted communication signals.

Claim 4 (original): The system of claim 1 for controlling an additional electrically operated railroad wayside equipment, said system further comprising:

 another equipment controller controlling the additional wayside equipment, said another equipment controller for receiving the communications signals from the transmitter and for generating corresponding control signals for controlling the additional wayside equipment.

Claim 5 (currently amended): The system of claim 4 wherein the transmitter is a controller remote signal driver interface (RSDi), wherein the equipment controller is a first RSDi, wherein

the another equipment controller is a second RSDi, and wherein the communications signals are transmitted over the power lines connecting the controller RSDi, the first RSDi and the second RSDi.

Claim 6 (original): The system of claim 4 wherein the transmitter is a controller rf remote signal driver interface (rf RSDi), wherein the equipment controller is a first rf RSDi, wherein the another equipment controller is a second rf RSDi, and wherein the communications signals are rf signals transmitted between the controller rf RSDi, the first rf RSDi and the second rf RSDi.

Claim 7 (original): The system of claim 4 wherein the transmitter is a controller cable remote signal driver interface (cable RSDi), wherein the equipment controller is a first cable RSDi, wherein the another equipment controller is a second cable RSDi, and wherein the communications signals are cable signals transmitted between the controller cable RSDi, the first cable RSDi and the second cable RSDi via a cable comprising a dedicated wire pair or fiber optic cable.

Claim 8 (original): The system of claim 4 wherein said transmitter, said receiver, said controller and said equipment controller together constitute a retrofit kit for use with the switched power supply and for use with an existing power line that supplies power to the railroad wayside equipment via the existing switched power supply.

Claim 9 (original): The system of claim 4 wherein the wayside equipment comprises a plurality of signal lights, a plurality of switched power supplies, each controlling one of the signal lights, and a plurality of voltage dropping circuits, all connected in series.

Claim 10 (original): The system of claim 9 wherein the voltage dropping circuits are resistors configured such that if one or more switched power supplies controlling a less restrictive signal light is energized, a voltage applied through the resistors to the switched power supplies controlling the more restrictive signal lights falls below a threshold voltage needed to energize the more restrictive signal lights.

Claim 11 (original): The system of claim 10 wherein the resistors are configured such that if one or more switched power supplies controlling a less restrictive signal light is not energized, a voltage applied through the resistors to the switched power supplies controlling more restrictive signal lights is above a threshold voltage needed to energize the more restrictive signal lights thereby energizing at least one of the more restrictive signal light.

Claim 12 (currently amended): The system of claim 1 wherein the wayside equipment includes a switched power supply for controlling the wayside equipment and at least one of the [a] power lines supplies power to the switched power supply; wherein the transmitter comprises a power line transmitter associated with the ~~power line~~ at least one of the power lines, said power line transmitter transmitting the communications signals over the ~~power line~~ at least one of the power lines; and wherein the equipment controller comprises a power line receiver associated with the ~~power line~~ at least one of the power lines, said second power line receiver receiving the first communications signals via the power line.

Claim 13 (original): The system of claim 1 wherein the transmitter is a first transceiver and wherein the equipment controller is a second transceiver integrated with a switched power supply for controlling the wayside equipment.

Claim 14 (original): The system of claim 1 wherein the transmitter associated with the controller is a transceiver, and further comprising a sensor detecting a status of the wayside equipment and providing status signals corresponding to the detected status to the equipment controller, wherein said equipment controller provides feedback signals to the transceiver, said feedback signals corresponding to the status signals, wherein the transmitter provides signals corresponding to the feedback signals to the controller, and wherein the controller is responsive to the provided signals.

Claim 15 (original): The system of claim 1 wherein the transmitter associated with the controller is a transceiver, wherein the wayside equipment includes a light source and further comprising a light detector detecting light emitted by the light source and providing status signals corresponding to the detected light to the equipment controller, wherein said equipment

controller provides feedback signals to the transceiver, said feedback signals corresponding to the status signals, wherein the transceiver provides signals corresponding to the feedback signals to the controller, and wherein the controller is responsive to the provided signals.

Claim 16 (currently amended): The system of claim 1 wherein the wayside equipment includes a switched power supply for controlling the wayside equipment and ~~a power line~~ least one of the power lines supplies power to the switched power supply; wherein the transmitter comprises a rf transmitter transmitting rf communications signals; and wherein the equipment controller comprises an rf receiver receiving the rf communications signals.

Claim 17 (original): The system of claim 16 wherein said rf transmitter, said rf receiver, said controller and said equipment controller together constitute a retrofit kit for use with the switched power supply and for use with an existing power line that supplies power to the railroad wayside equipment via the existing switched power supply.

Claim 18 (original): The system of claim 17 wherein the wayside equipment comprises a plurality of signal lights, a plurality of switched power supplies, each controlling one of the signal lights, and a plurality of voltage dropping circuits, all connected in series.

Claim 19 (original): The system of claim 18 wherein the voltage dropping circuits are resistors configured such that if one or more switched power supplies controlling a less restrictive signal light is energized, a voltage applied through the resistors to the switched power supplies controlling more restrictive signal lights falls below a threshold voltage needed to energize the signal lights.

Claim 20 (original): The system of claim 1 wherein the transmitter is a first rf transceiver and wherein the equipment controller is a second rf transceiver integrated with a switched power supply for controlling the wayside equipment, the first and second rf transceivers communicating with each other via rf signals.

Claim 21 (original): The system of claim 20 wherein each of the rf transceivers comprises a data radio transceiver.

Claim 22 (original): The system of claim 1 wherein the transmitter associated with the controller is a rf transceiver, and further comprising a sensor detecting a status of the wayside equipment and providing status signals corresponding to the detected status to the equipment controller, wherein said equipment controller provides rf feedback signals to the rf transceiver, said rf feedback signals corresponding to the status signals, wherein the rf transceiver provides signals corresponding to the rf feedback signals to the controller, and wherein the controller is responsive to the provided signals.

Claim 23 (original): The system of claim 1 wherein the transmitter associated with the controller is an rf transceiver, wherein the wayside equipment includes a light source and further comprising a light detector detecting light emitted by the light source and providing status signals corresponding to the detected light to the equipment controller, wherein said equipment controller provides rf feedback signals to the rf transceiver, said rf feedback signals corresponding to the status signals, wherein the rf transceiver provides signals corresponding to the rf feedback signals to the controller, and wherein the controller is responsive to the provided signals.

Claim 24-32 (canceled).